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Remarks.

The Examiner's comments and objections and the cited references have been carefully considered by the Applicant.

It is noted that the main claims 36 and 71-72 are rejected under 35 USC § 102 as being unpatentable over Vandehey et al.

Accordingly, an amended claim 36 and new independent claims 73-74 have been drafted and are hereby submitted for the Examiner's approval.

The subject-matter newly introduced in claims 36, 73 and 74, with respect to the original form of main claim 36, is based upon subject-matter already taught in the application as filed, at page 1, lines 22-29, page 6, lines 27-29, page 7, lines 18-24, page 8, lines 14-16 of the specification, original claim 52 and in the figures.

No new matter has been introduced.

Reconsideration of the application as hereby amended is respectfully requested.

Vandehey et al teach a method for strengthening a double wall structure with two wall parts erected so as to close a cavity therebetween. An expanding substance is deposited in the cavity in successive overlaying layers, in a sequential discontinuous process, by way of a nozzle 36 that is introduced through a slot 32 in one of the wall portions.

The nozzle 36 is moved in a horizontal plane, "*longitudinally to the cavity to spray a first bottom layer 34. ...*

After such first layer is sprayed the nozzle 36 is raised to avoid contact with the expanding material which is allowed to cure before another layer of adhesive material is

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formed on the bottommost layer 34 ...

Once the adhesive material has cured the end of the nozzle 30 is positioned at a point just above the previously formed bottommost layer and adhesive material is sprayed on top of the bottommost layer 34 as the nozzle 30 is moved longitudinally of the cavity.... The layering process is then repeated until cavity 24 is filled with layers having substantially the same height H. "

See Vandehey et al, columns 4-5, lines 58-67 and 1-47, respectively, and figures 2A-2C.

It ensues that Vandehey et al are completely silent on

"a method for repairing and/or waterproofing and/or insulating and/or reinforcing a wall system by and/or restoring the structural integrity thereof, the of-wall-systems system comprising a solid aggregate structure consisting of blocks of material with a binder interposed therebetween, the solid structure extending between planes of arrangement of opposite surfaces thereof, the method consisting:

--in locating existing cavities that exist and are formed in said solid structure by disaggregation of the block material or binder in a wall system of a building"

as set forth in amended claim 36.

Also, Vandehey et al fail to teach

"A method for repairing, waterproofing, insulating and reinforcing a wall system by restoring structural integrity thereof, the wall system comprising a solid aggregate structure consisting of blocks of material with a binder interposed therebetween, the solid structure extending between planes of arrangement of opposite surfaces thereof, the method consisting:

--in locating existing cavities formed in said solid structure by disaggregation of the block material or binder;

-- in providing spaced injection holes that extend along substantially vertical directions within said solid structure of the wall system in a manner suitable to pass through said cavities that exist in the solid structure ;

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-- in inserting injection tubes in said injection holes;

-- in injecting in said injection holes, through said injection tubes which are gradually retracted upward during injection, a substance that expands after injection as a consequence of a chemical reaction, fills said cavities and the injection holes and restores the structural integrity of the solid structure.

as set forth in new claim 74, since they teach a wall with two facing parts enclosing a gap which is consolidated, as an alternative to bracing (see figure 1 and related description) through a discontinuous process in which the gap is filled by deposition of successive layers of expanding substance. The deposition of a layer is performed after the previously sprayed layer has cured and the spraying nozzle is raised discontinuously by a distance H equal to the thickness of a cured layer.

Regarding new claim 74, it is submitted that in addition to the above (in view of the fact that the claim contains all of the limitations of claim 73), a selection step is claimed consisting

--in selecting an expandable substance suitable to expand as a consequence of a chemical reaction that before expansion has a permeability coefficient equal to 10^{-9} m/s and an average viscosity comprised between 200 and 300 mPa.s at 20° C;

that is nowhere disclosed or suggested in the cited prior documents.

Thus, not all the elements of the claimed invention are disclosed, either explicitly or inherently, in a single reference and the claimed invention is new.

It is further submitted that none of the prior art references discloses or suggests, a method for repairing and/or waterproofing and/or insulating and/or reinforcing a wall system by restoring the structural integrity thereof, the wall system comprising a solid aggregate structure consisting of blocks of material with a binder interposed therebetween,

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particularly by filling with chemically expandable substance cavities that exist and are formed in said solid structure by disaggregation of the block material or binder

The prior art documents teach only treating wall systems by filling gaps formed by construction in such systems and never mention or suggest restoring the structural integrity of a solid wall structure by injecting in and filling cavities formed by disaggregation of the building materials as now claimed.

Thus no teaching, suggestion, or motivation exists in the cited prior art to modifying or optimizing the teachings of the prior art to produce the claimed invention.

On the contrary, WIPO '982 teaches that a chemically expandable, injected material develops strong forces suitable to provoke fissures in the mass surrounding the injection site, thereby dissuading the one skilled in the art from injecting it into the solid wall structure.

Accordingly, it is respectfully submitted that the teachings of the cited references are not sufficient to render the new claims as hereby amended obvious.

Favorable action is respectfully solicited.

While it is believed that the amended claims properly and clearly define the present invention, applicant would be open to any suggestion or amendment the Examiner may have or propose concerning different claim phraseology which, in the Examiner's opinion, more accurately defines the present invention.

Respectfully submitted,



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